

Amendment
Serial No. 10/758,585
BREAST PUMP PRESSURE REGULATOR VALVE
Docket No. : ECI06-GN015

In the Specification:

Please amend the specification as follows:

[0031] Referring to Figs. 3, 4, 8, 12, and 13, the smaller orifice 60 of the hollow body 52 provides a throughput for receiving the needle 50 therethrough. The needle 50 includes a D-shaped key 104 riding circumferentially thereabout which is adapted to pass through the smaller orifice 60 64 irrespective of orientation. The D-shaped key 104 is also adapted to pass through the axial D-shaped orifice 84 centered within the disc 82 of the dual helix 76 upon proper orientation. The needle 50 includes a recess 106 adjacent to the D-shaped key 104 and a block 108 adjacent to the recess 106. The recess 106 is adapted to receive the circumferential projection 86 of the D-shaped orifice 84 to mount the dual helix 76 onto the needle 50. The needle 50 also includes a cylindrical segment 110 having a diameter slightly smaller than the diameter of the smaller orifice 60 64 to allow actuation of the needle 50 by a dial 112 coupled thereto.

[0032] Referring to Figs. 3, 4, 8, 12, and 13, clockwise or counterclockwise rotation of the dial 112 repositions the needle 50 with respect to the opening 48 associated with the passage. The hollowed body 54 52 of the bleed valve 44 is secured to the housing 28 via the detents 68, 70, thereby allowing rotation of the needle 50 and dual helix 76 therein. The cam surface 90 rides upon the stop 58 to transform the rotation of the dial 112 into linear motion of the needle 50 with respect to the opening 48. For example, clockwise rotation of the dial 112 results in clockwise rotation of the needle 50, causing clockwise rotation of the dual helix 76 such that the stop 58 rides upon the cam surface 90 to increase the distance between the D-shaped key 104 of the needle 50 and the inner radial wall surface 62 of the radial wall 56 thereby moving the needle 50 closer to the opening 48, eventually plugging the opening 48 upon sufficient clockwise rotation. Conversely, counterclockwise rotation of the dial 112 results in moving the needle 50 farther from the opening 48 creating a correspondingly larger passage for fluid through the opening 48.

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[0034] The milk secreted from the breast is carried by the funnel 12 and into the diversion tunnel 14. Once in the diversion tunnel 14, the milk is gravity fed to the check valve 20. The check valve 20 comprises at least one flexible flap 114 allowing the milk to flow past the flap and enter the container 22. Upon depressurization (i.e., the piston 30 being withdrawn from the front of the depressurized chamber 26), the flap 114 seals off the contents of the container 22, thereby discontinuing fluid communication between the contents of the container 22 and the diversion tunnel 14. As milk enters the container 22, air is displaced and flows through the valve 20 and mildly increases the pressure within the system.